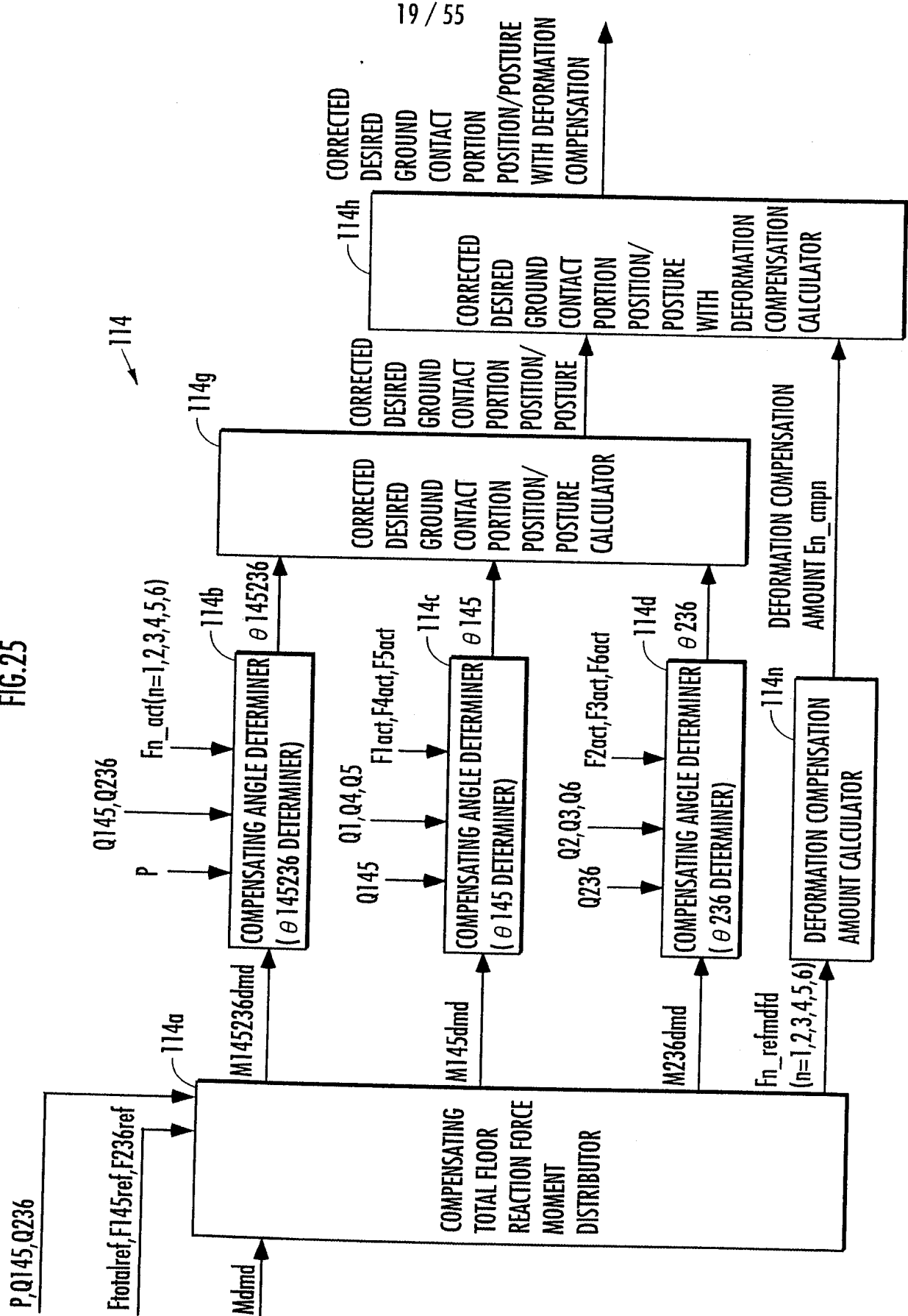


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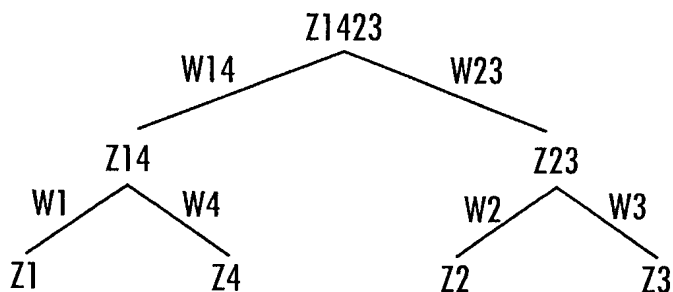
FIG.25



The diagram illustrates a posture correction system. At the top, a block labeled '114' receives inputs: P, Q_{145}, Q_{236} ; $F_{totalref}, F_{145ref}, F_{236ref}$; and M_{dmnd} . This block outputs $M_{145236dmnd}$ to three 'DETERMINER' blocks: θ_{145236} (114a), θ_{145} (114c), and θ_{236} (114d).
 Block 114a also receives Q_{145}, Q_{236} and $F_{n_act}(n=1,2,3,4,5,6)$. It outputs θ_{145236} to block 130 and θ_{145236} to block 114b.
 Block 114b is a 'FLOOR CONFIGURATION ESTIMATOR' containing a 'MECHANISM COMPLIANCE MODEL'. It receives $P, D_n(n=1,2,3,4,5,6), F_{n_act}(n=1,2,3,4,5,6)$, and θ_{145236} . It outputs 'BODY INCLINATION', 'POSTURE ERROR θ_{berr} ', and 'ACTUAL JOINT DISPLACEMENT' to block 130. Block 130 also receives $F_{n_estm}(n=1,2,3,4,5,6)$ and outputs 'CORRECTED DESIRED GROUND CONTACT POSITION/POSTURE' (114g) to block 114h.
 Block 114c receives Q_{145} and $F_{1act}, F_{4act}, F_{5act}$. It outputs θ_{145} to block 114h.
 Block 114d receives Q_{236} and $F_{2act}, F_{3act}, F_{6act}$. It outputs θ_{236} to block 114h.
 Block 114h is a 'CORRECTED DESIRED GROUND CONTACT POSITION/POSTURE WITH DEFORMATION COMPENSATION CALCULATOR'. It receives inputs from 114g, 114c, and 114d, and performs a summation (132) to output the final 'CORRECTED DESIRED GROUND CONTACT POSITION/POSTURE WITH DEFORMATION COMPENSATION'.

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FIG.42



$$Z14_with_bias = W1 \cdot Z1_with_bias + W4 \cdot Z4_with_bias$$

$$Z23_with_bias = W2 \cdot Z2_with_bias + W3 \cdot Z3_with_bias$$

$$Z1423_with_bias = W14 \cdot Z14_with_bias + W23 \cdot Z23_with_bias$$

$$Z1_rel = Z1_with_bias - Z14_with_bias$$

$$Z4_rel = Z4_with_bias - Z14_with_bias$$

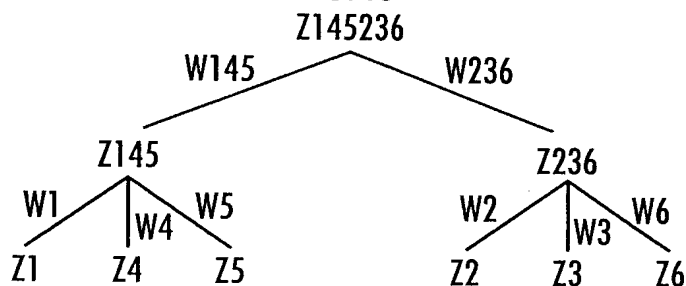
$$Z2_rel = Z2_with_bias - Z23_with_bias$$

$$Z3_rel = Z3_with_bias - Z23_with_bias$$

$$Z14_rel = Z14_with_bias - Z1423_with_bias$$

$$Z23_rel = Z23_with_bias - Z1423_with_bias$$

FIG.43



$$Z145_with_bias = W1 \cdot Z1_with_bias + W4 \cdot Z4_with_bias + W5 \cdot Z5_with_bias$$

$$Z236_with_bias = W2 \cdot Z2_with_bias + W3 \cdot Z3_with_bias + W6 \cdot Z6_with_bias$$

$$Z145236_with_bias = W145 \cdot Z145_with_bias + W236 \cdot Z236_with_bias$$

$$Z1_rel = Z1_with_bias - Z145_with_bias$$

$$Z4_rel = Z4_with_bias - Z145_with_bias$$

$$Z5_rel = Z5_with_bias - Z145_with_bias$$

$$Z2_rel = Z2_with_bias - Z236_with_bias$$

$$Z3_rel = Z3_with_bias - Z236_with_bias$$

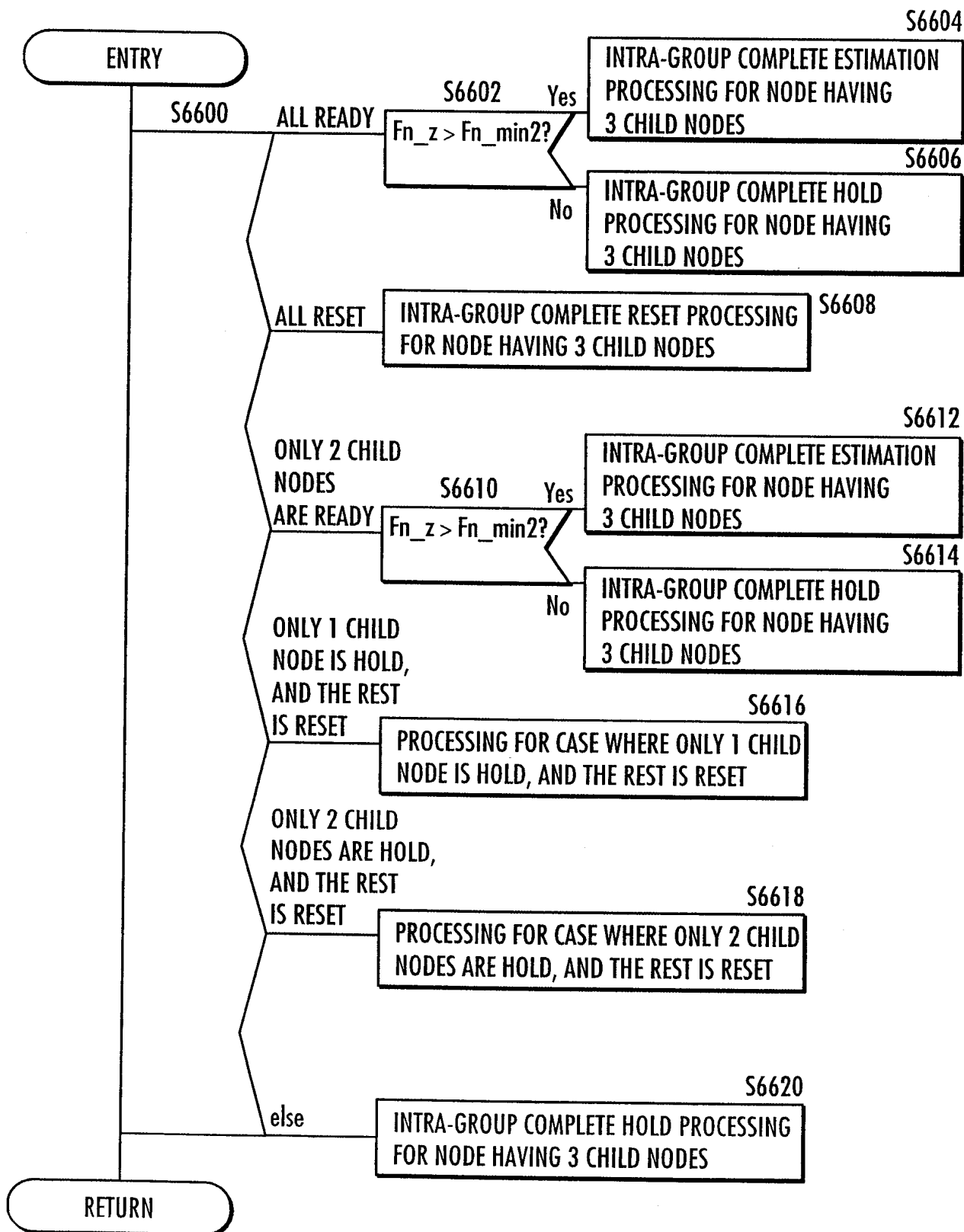
$$Z6_rel = Z6_with_bias - Z236_with_bias$$

$$Z145_rel = Z145_with_bias - Z145236_with_bias$$

$$Z236_rel = Z236_with_bias - Z145236_with_bias$$

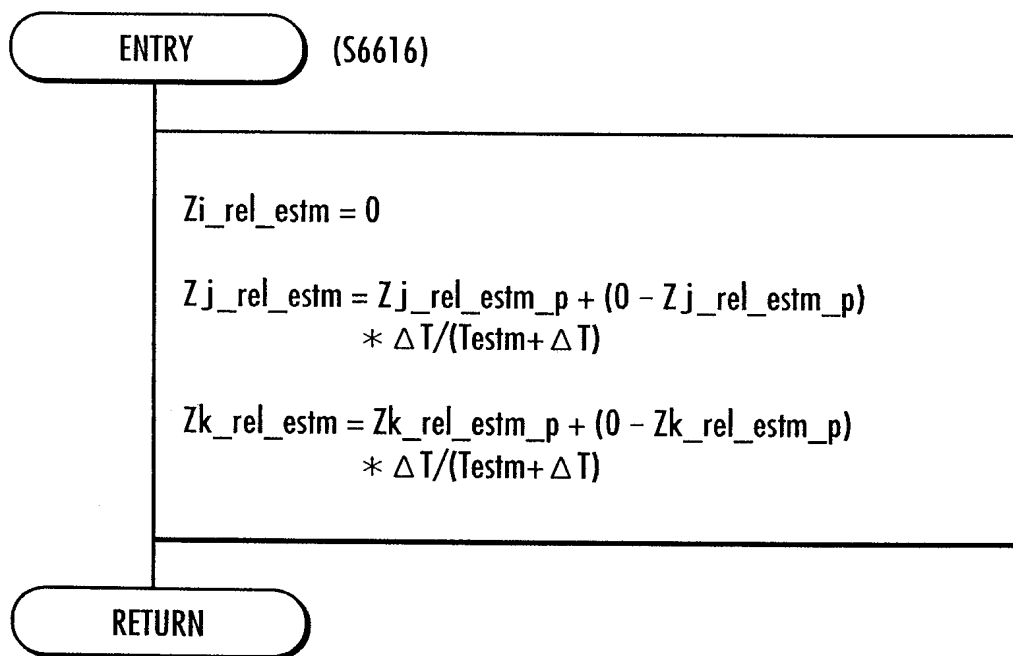
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FIG.49



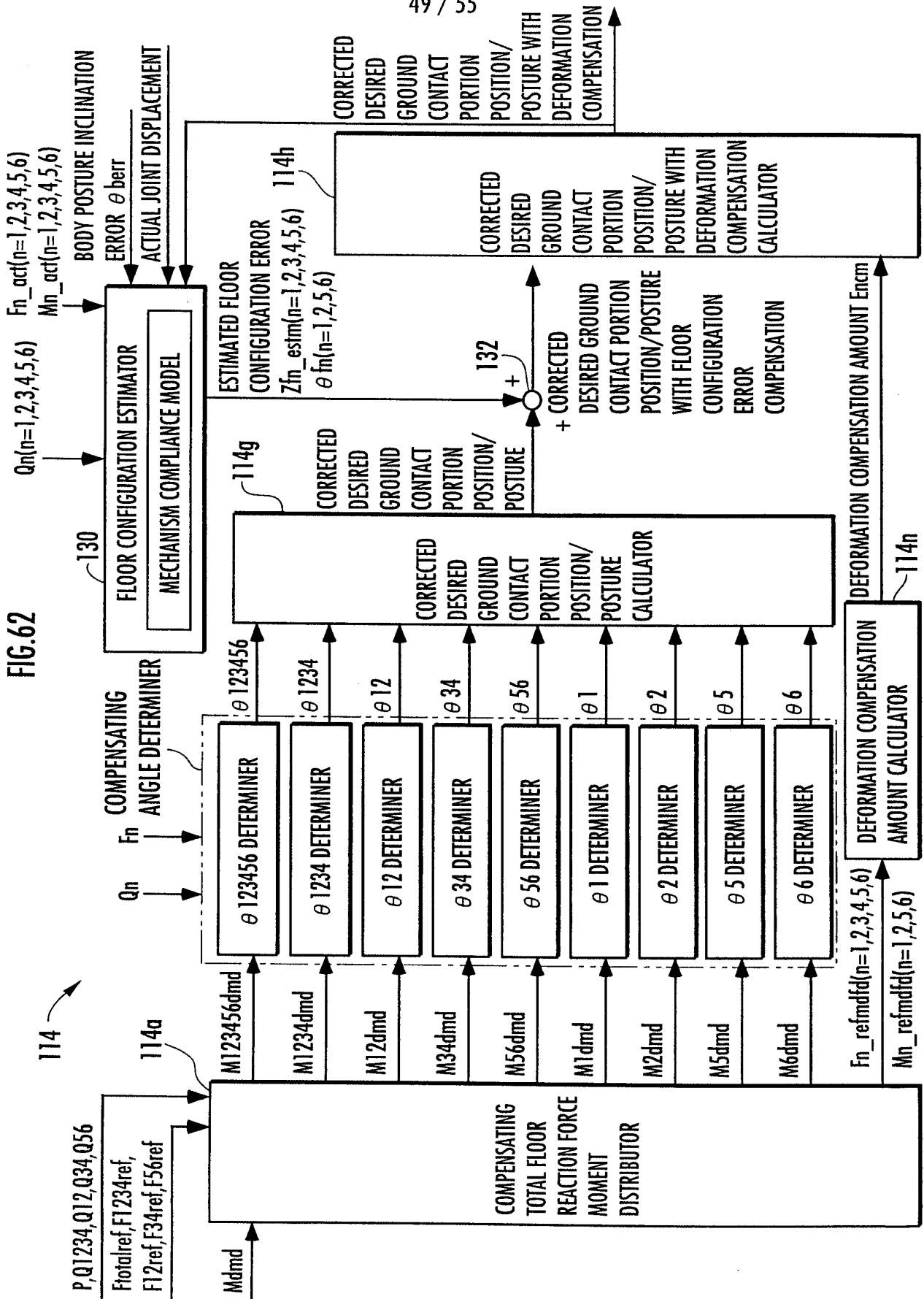
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FIG.54



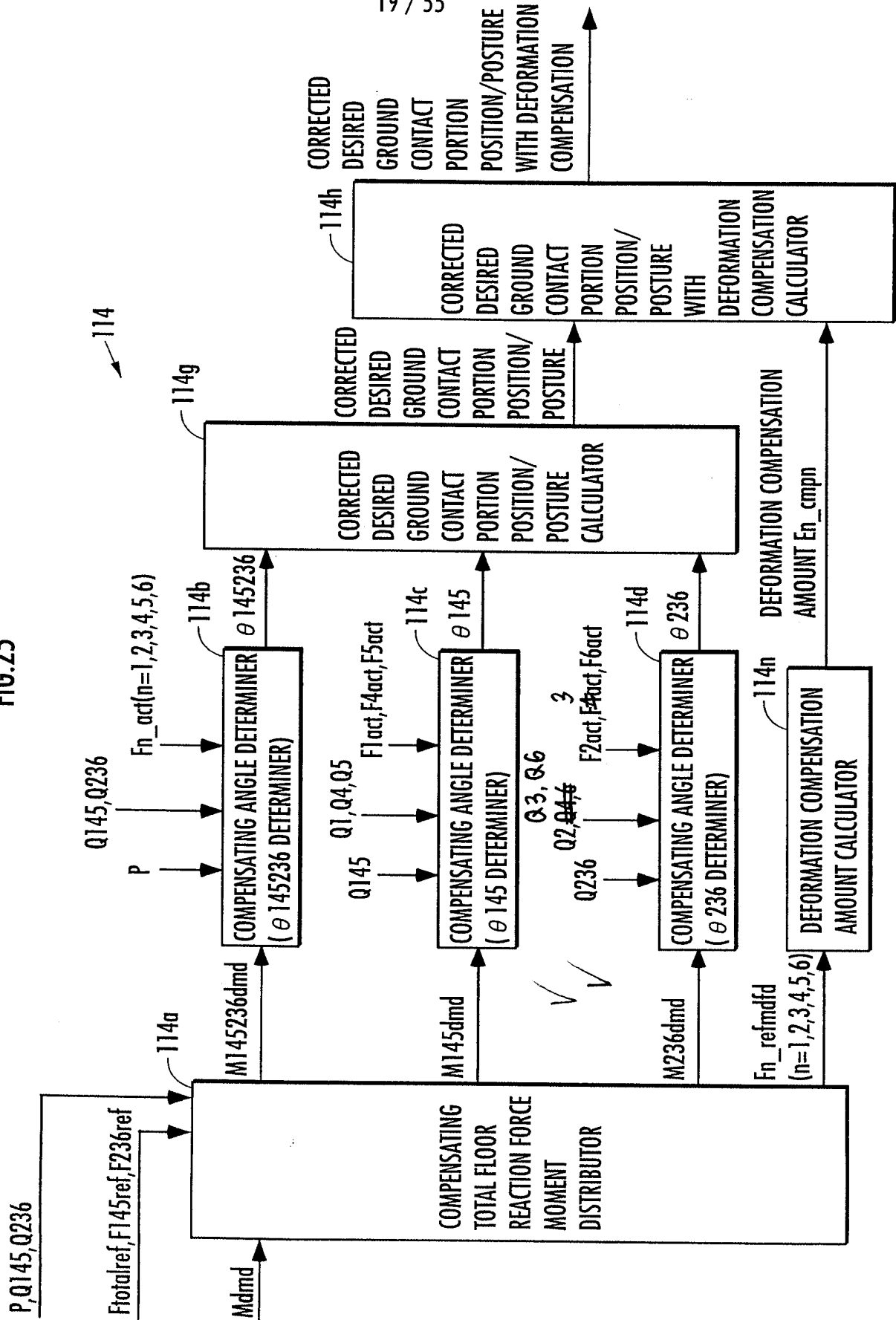
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FIG. 62



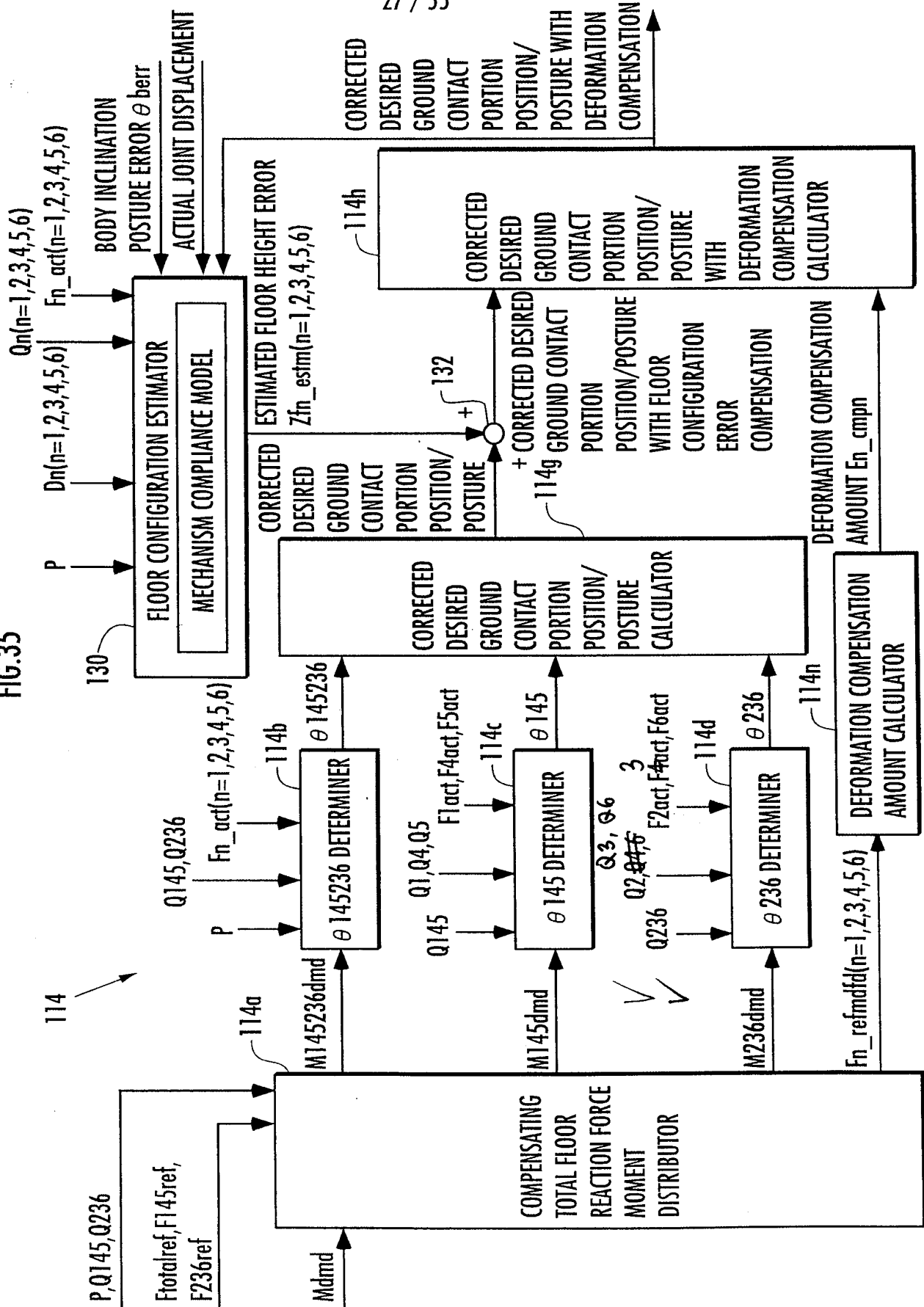
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FIG.25



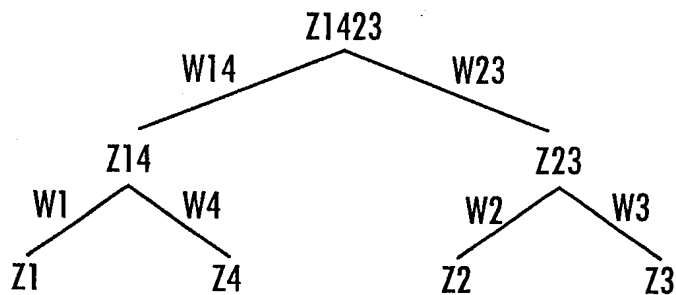
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FIG. 35



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FIG.42



$$Z14_with_bias = W1 \cdot Z1_with_bias + W4 \cdot Z4_with_bias$$

$$Z23_with_bias = W2 \cdot Z2_with_bias + W3 \cdot Z3_with_bias$$

$$Z1423_with_bias = W14 \cdot Z14_with_bias + W23 \cdot Z23_with_bias$$

$$Z1_rel = Z1_with_bias - Z14_with_bias$$

$$Z4_rel = Z4_with_bias - Z14_with_bias$$

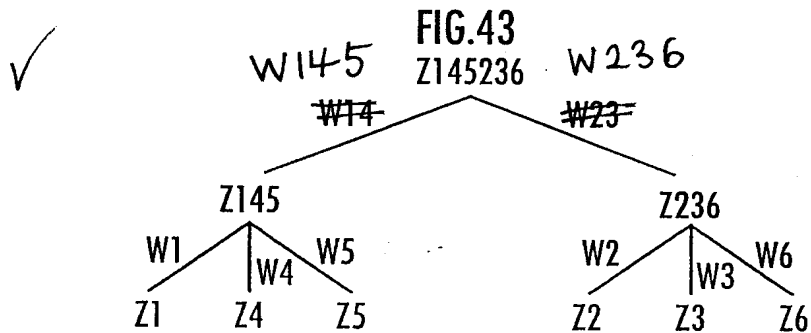
$$Z2_rel = Z2_with_bias - Z23_with_bias$$

$$Z3_rel = Z3_with_bias - Z23_with_bias$$

$$Z14_rel = Z14_with_bias - Z1423_with_bias$$

$$Z23_rel = Z23_with_bias - Z1423_with_bias$$

FIG.43



$$Z145_with_bias = W1 \cdot Z1_with_bias + W4 \cdot Z4_with_bias + W5 \cdot Z5_with_bias$$

$$Z236_with_bias = W2 \cdot Z2_with_bias + W3 \cdot Z3_with_bias + W6 \cdot Z6_with_bias$$

$$Z145236_with_bias = W145 \cdot Z145_with_bias + W236 \cdot Z236_with_bias$$

$$Z1_rel = Z1_with_bias - Z145_with_bias$$

$$Z4_rel = Z4_with_bias - Z145_with_bias$$

$$Z5_rel = Z5_with_bias - Z145_with_bias$$

$$Z2_rel = Z2_with_bias - Z236_with_bias$$

$$Z3_rel = Z3_with_bias - Z236_with_bias$$

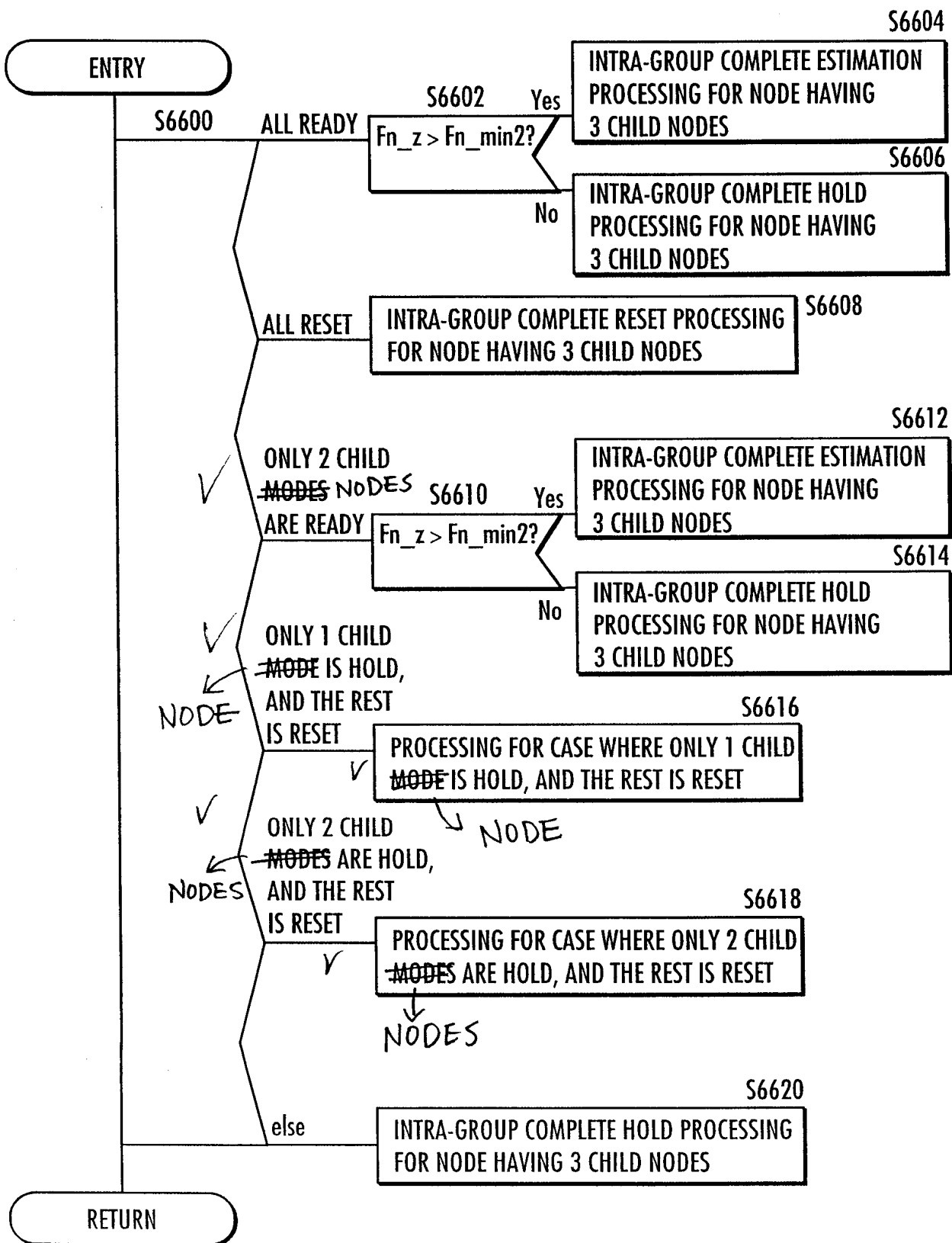
$$Z6_rel = Z6_with_bias - Z236_with_bias$$

$$Z145_rel = Z145_with_bias - Z145236_with_bias$$

$$Z236_rel = Z236_with_bias - Z145236_with_bias$$

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FIG.49



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FIG.54

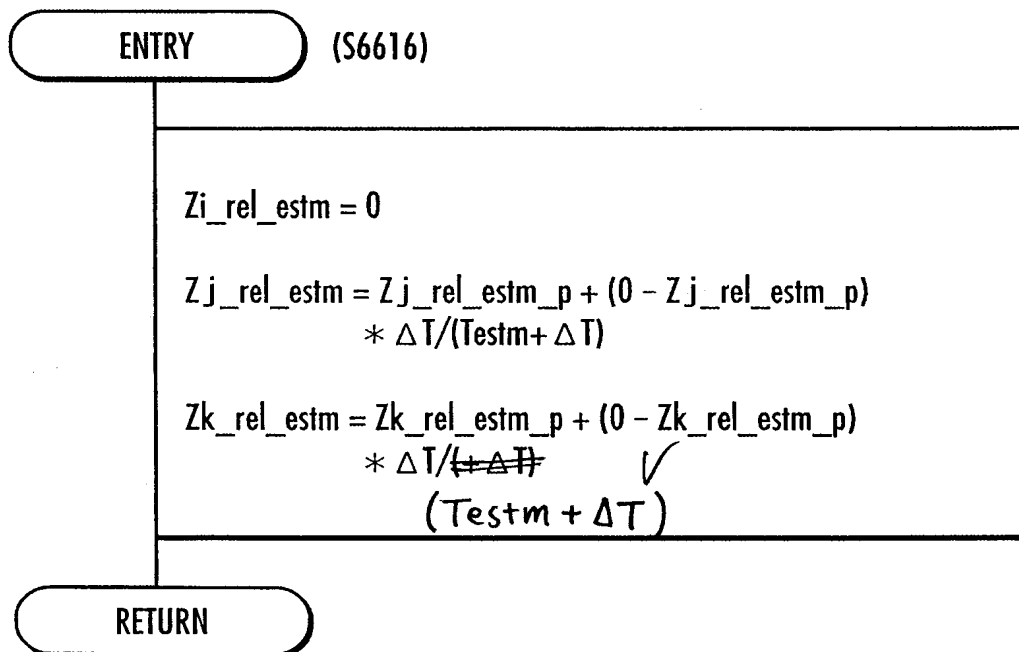


FIG. 62

